U.S. Army Recruiting Command

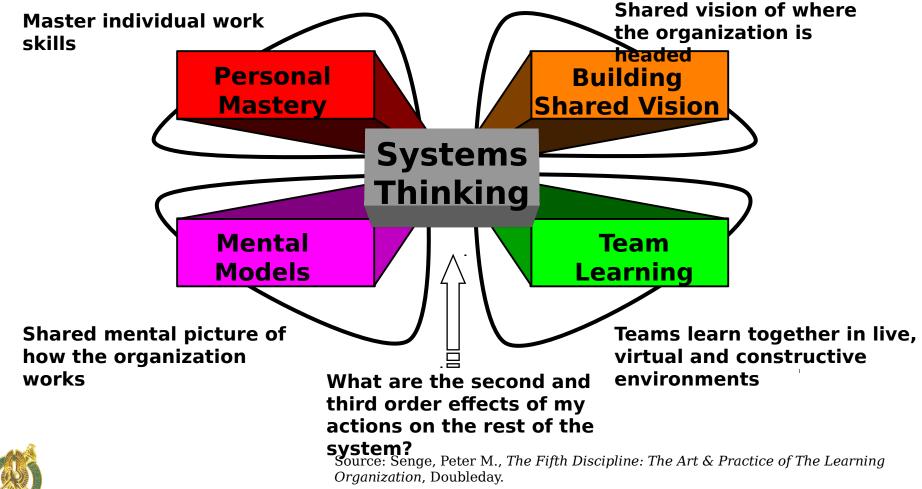


Strategic Wargame and Decision Support System Briefing for:

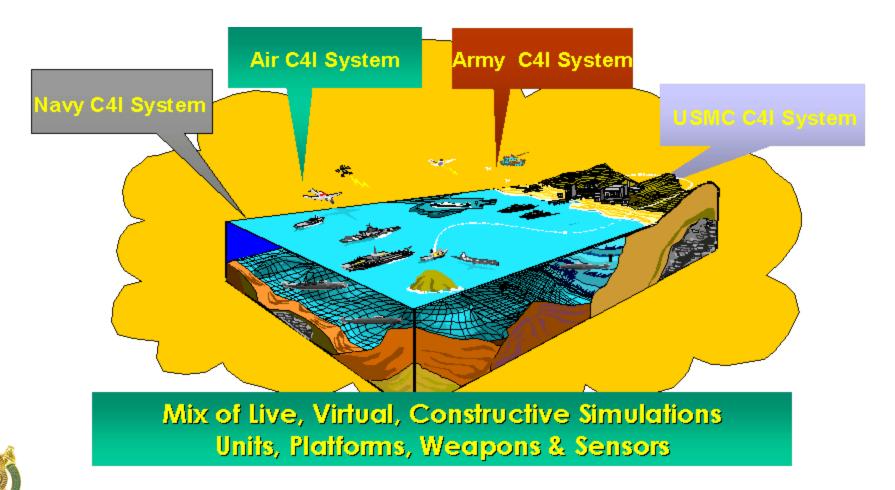
Recruiting Research Consortium

Learning Organization

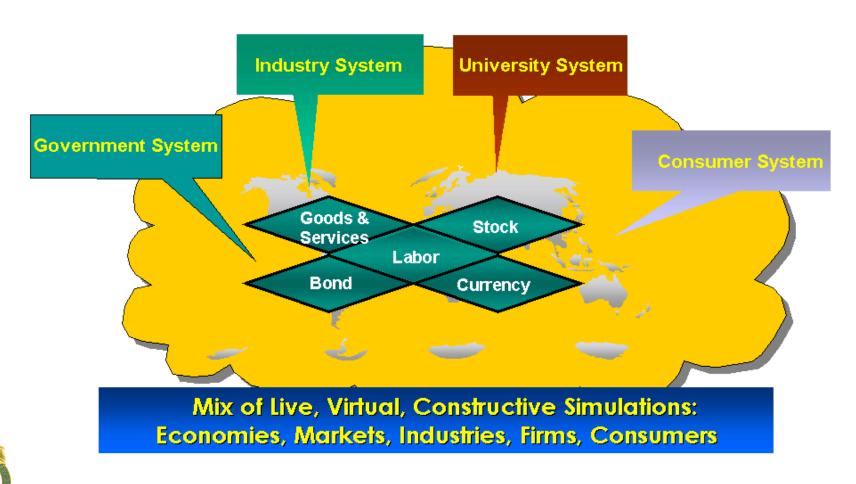
A learning organization continually practices mastery of five disciplines in order to continually expand its capacity to create its own future



Department of Defense's Synthetic Terrain ...



Synthetic Terrain for Business War Gaming ...





USAREC Strategic Planning War Game Development Team

- * NPS: Data mining, market analysis, team integration, project management
- * SEAS : Simulation Environment development
- * IDA: Business war game facilitation and After Action Review
- * SAIC: USAR Interface

Business Wargaming as Lens for the Vision

- Management counterpart to combat simulation
- * Market (or economy) based vs. force-based
- * Agent-based virtual environment
- * Useful for
 - Management education
 - Building teamwork
 - Training
 - Policy making and decision tradient as less the following
- Business wargames can take the following forms:
 - BOGSAT
 - Stand-alone computer games (e.g., SimCity)
 - Multi-player "war room" simulations (USAREC SPWG)
 - Multi-player distributed (Web-based) simulations



Wargame Results

- Strategic Planning Wargame (SPWG) After Action Reports:
 - "... a useful tool for driving the dialog through the representation of recruiting with virtual agents"
 - "... generated numerous ideas and possibilities for future recruiting."
 - "Provided for "safe" cause and effect analysis."
 - "What if" capability
 - "More than one option/answer for each mission year, which helps develop leaders."
 - "Opened new opportunities"
 - "Verbal interactions/ group discussions"
 - "Great opportunity to explore options quickly (make no cost mistakes)"
- Workshops:
 - "Generated great cross-talk on new ideas"
 - "Allowed honest, open communication & dialog"
 - "Rank and experience diversity"

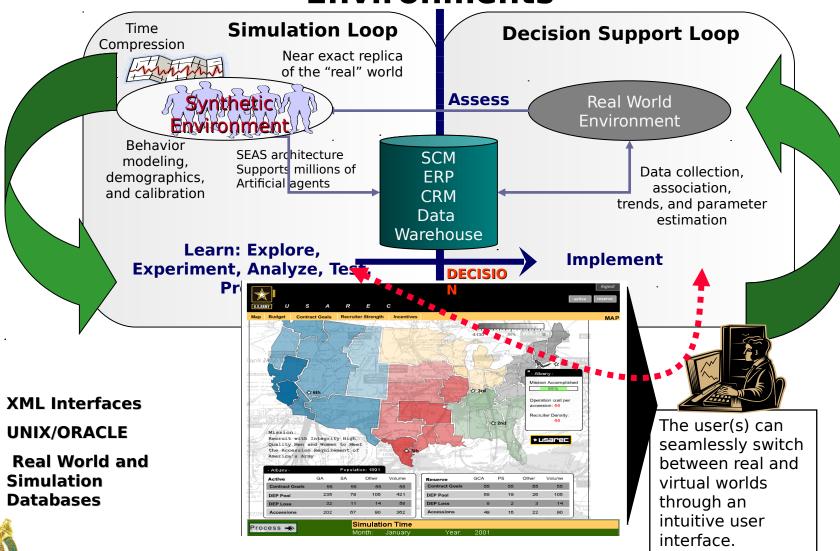
What IF? Example

- 6th Brigade moved most of the Denver
 Battalion recruiters to Southwest Region
 - Still made mission for Brigade
 - Opened discussion on connecting with America's youth
 - Opened discussion on mobile recruiting stations

Version 2 of USAREC Wargame

- * Company level resolution
- * Leads
- * War game fielded weeks before so teams are prepared for "game day(s)"
- * Army Group doesn't play actively
- * Inputs via slider bars vs. specific numbers
- USAAC as new player
- New, improved UI
- * Modified performance measures

The Vision: Concurrent Simulation and Real World Environments



Part 2: Operational DSS

- * Provide Wargame UI to USAREC Data Warehouse
- * Provide Wargame Simulation on Web

Technological Basis of the Vision

Agent-based Simulation

Provides the ability to construct artificial, or virtual, markets

Data Warehouse, OLAP, Data Mining

Provides access to real time data and analysis

Visualization

Provides uniform interface to simulation (Virtual World) and warehouse (Real World)

* Models

Integration with other existing decision support tools such as Early Warning System, Recruit station location, etc.

Web-enabled Distribution
 Worlds are accessible from distributed locations

Definitions

- **Agent**
 - Primitive, active entity in SEAS
 - Made up of:-
 - * DNA internal characteristics
 - **Behavior learned characteristics**
 - **Channels/Ports communication capabilities**
- **External Performance Moderators/Decision Factors**
 - **External characteristics/environmental changes** that impact agents' behaviors.
 - **Example: Army College Fund, economy, time of** service.



Agent DNA



Intelligence forms the second helix



DNA information is extracted from the data to accurately represent the intelligence and the behavior of

■ Gehee agent

Gene type: Education

Gene value: 0011 - HighSchool

Gene1 **Gene type: Gender** Gene value: 0001 -

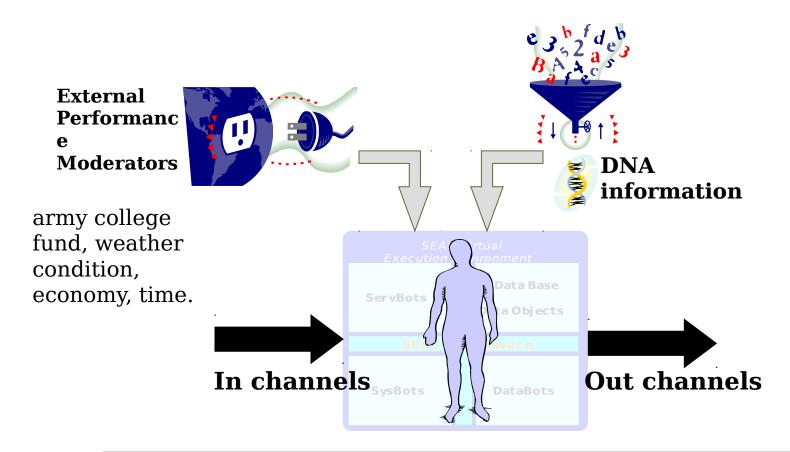
Male

Behaviors form the first helix





Creation of active, behaviorally accurate agents

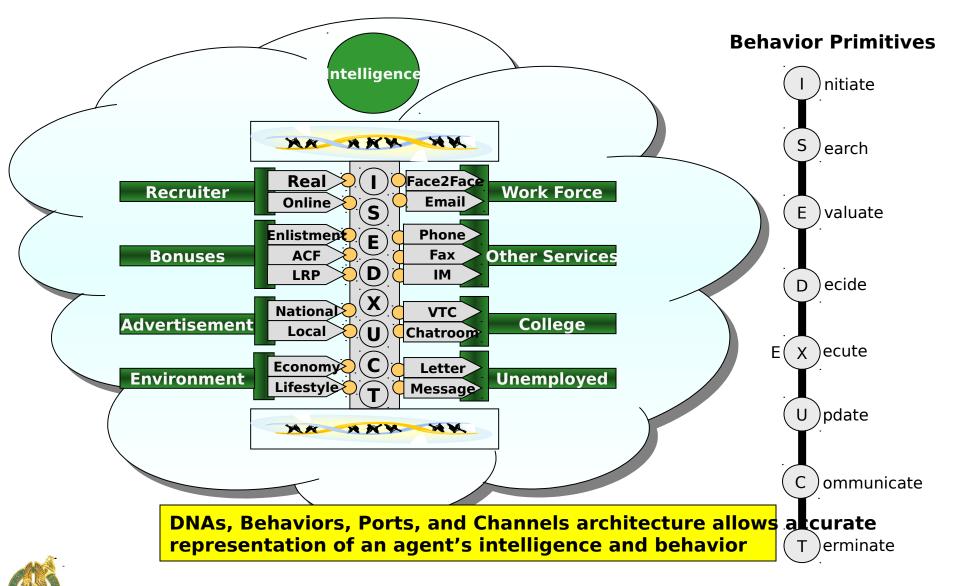


The combination of human decision makers (for depth) with artificially intelligent agents (for breadth) allows unmatched flexibility, realism and detail.





Anatomy of an Artificial Agent







Benchmark Models and Input Sources

Enlistment Early Warning System

YOUTH ATTITUDE TRACKING STUDY (YATS)

ENHANCED APPLICANT FILE

MARKET SHARE / COMPETITIVE ANALYSIS

SAMPLE SURVEY OF MILITARY PERSONNEL

NEW RECRUIT SURVEY (NRS)

PARENTS OF NEW RECRUITS SURVEY

TEENAGE RESEARCH UNLIMITED (TRU)
MONITORING THE FUTURE

YANKELOVICH MONITOR

LIFESTYLE SEGMENTATION SYSTEM

PRIME MARKET STUDY

COLLEGE/WORKFORCE POTENTIAL

COLLEGE MARKET DATABASE

RECRUITS WITH COLLEGE SURVEY

NEW (COLLEGE) INCENTIVE ANALYSIS

SURVEY OF ELITE COLLEGE STUDENTS

LEADS DISTRIBUTION SYSTEM ANALYSIS

YOUTH DECISION MAKING PROCESS

BARRIERS TO ARMY ENLISTMENT STUDY

PRIOR SERVICE FOCUS GROUP (USAR)

RECRUITER SELECTION STUDY

Many of the Research Studies are Currently Unfunded, Thus Endangering Valid Output



Benchmarks

- *Enlistment Early Warning System
- *CSM Econometric Model
- *DEP Risk Algorithm
- *Firm Handshake (LTC Stone) 2000
- *SimMarineCorps October 2000



U.S. Army Recruiting Command

Where Do We Go from Here?

Version 1: Proof of Principle

Recruiting Command



Version 1: successful proof of principle in August 2001 At 14:1 compression ratio

Version 2*: Under Development

Recruiting Command



Version 2 will be rolled out in August 2002 With approximately 2:1 compression ratio

•Version 2 has much finer granularity and enhanced decision support capability

Version 2.5 Proposed

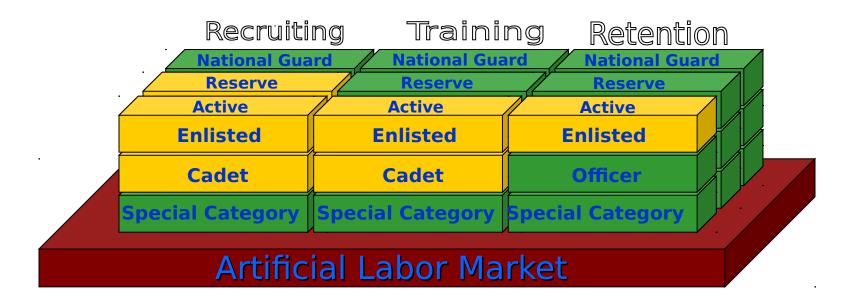
Army Accession Command



Version 2.5 can be rolled out in August 2002 to include IET

Version 3. Proposed

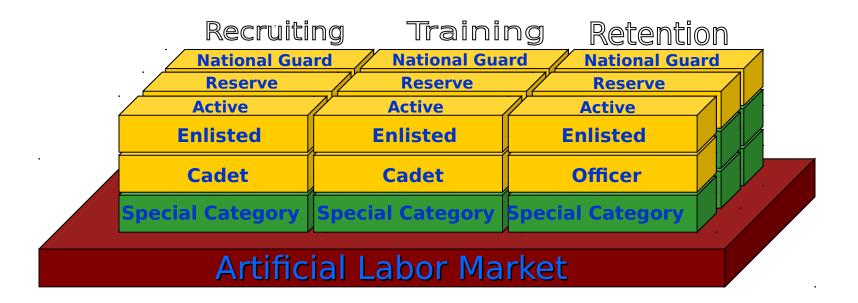
ASA-MRA



Version 3 can be rolled out in August 2003 with 1:1 granularity

Version 4 Proposed

ASA-MRA



Version 4 can be rolled out in August 2004

Version 5: Proposed

Manning



Version 3 can be rolled out in August 2005

The Vision: Concurrent Simulation and Real World Environments

